

## AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings of claims in the application:

### LISTING OF CLAIMS

1. (Currently Amended) An electric power system comprising:

a weather data input means for inputting weather data, temperature, atmospheric pressure and weather, at predetermined time intervals, in the district of an operating transmission line;

a digital processing unit;

a memory means for storing said transmission line data that shows relations between a corona discharge start voltage and weather conditions at each transmission line, and processed data by said ~~[[a]]~~ digital processing unit; and

~~a digital processing unit for calculating corona discharge start voltage of said transmission lines and deciding set transmission voltage of the transmission line; and~~

a power system analysis means, ~~means~~;

~~characterized in that:~~

~~data on weather forecasts is inputted for the district at predetermined time intervals,~~

wherein said ~~the~~ digital processing unit calculates the ~~estimated~~ corona discharge start voltage at ~~for~~ said transmission line by the data on weather forecasts and said transmission line data,

if the calculated corona discharge start voltage ~~of the transmission line~~ is lower than a normal transmission voltage of the line, a countermeasure transmission voltage that is recorded in said memory means in advance is selected to set a transmission voltage of the transmission line or stop ~~the~~ transmitting electric power on the transmission line, and

if the calculated corona discharge start voltage of the transmission line is above the normal transmission voltage of the line, the normal transmission voltage is selected as the set transmission voltage of the transmission line, and

wherein said the power system analysis means analyzes ~~the load~~ loads of apparatuses of the power system, ~~and~~

~~according to an analysis result, the electric power system operates the apparatuses and transmits electric power.~~

2-11. (Canceled)

12. (New) The electric power system as claimed in claim 1,

wherein the calculation of the corona discharge start voltage by said digital processing unit is executed as follows:

(1) the transmission line is an object for which a corona discharge is to be suppressed,  
(2) said digital processing unit reads data to determine whether past data should be used or not, and if the past data should be used, the past data recorded in said memory means is used for the corona discharge start voltage, and

(3) if the past data cannot be used, the corona discharge start voltage at the transmission line is calculated by substituting the weather forecast data and the transmission data in an equation.

13. (New) The electric power system comprising:

a corona discharge detection means;

a digital processing unit;

a memory means for storing transmission line data and processed data by said digital processing unit;

a power system analysis means;

a weather detecting means; and

a transmitter,

wherein said digital processing unit stops a corona discharge in a short time by lowering a transmission voltage of a transmission line that generates the corona discharge, or stops transmitting electric power in the transmission line when said corona discharge detection means detects a corona discharge, and

wherein said power system analysis means adjusts loads of apparatuses in the electric power system.

14. (New) The electric power system as claimed in claim 13,

wherein said digital processing unit stores weather conditions in said memory means before and after occurrence of a corona discharge, and

changes the transmission voltage to a previous one, when weather conditions are assumed not to generate a corona discharge.

15. (New) The electric power system as claimed in claim 13,

wherein said corona discharge detection means is an ultraviolet light detecting device.

16. (New) The electric power system as claimed in claim 13,

wherein said corona discharge detection means is an ultraviolet light detecting device that detects ultraviolet light of a wavelength 100 nm to 320 nm.

17. (New) The electric power system as claimed in claim 13,

wherein said digital processing unit restores the previous transmission voltage on a predetermined time after lowering the transmission voltages.

18. (New) An electric power system operating method comprising:

inputting weather data, temperature, atmospheric pressure and weather at predetermined time intervals;

calculating a corona discharge start voltage at a transmission line and deciding a set transmission voltage of the transmission line by a digital processing unit;

storing transmission line data and processed data in memory means by a digital processing unit; and

analyzing loads of apparatuses of the power system by a power system analysis means.

19. (New) The electric power system operating method as claimed in claim 18,

wherein the calculating the corona discharge start voltage includes:

(1) judging whether or not the transmission line is an object for which a corona discharge is to be suppressed,

(2) deciding whether past data should be used or not, and if the past data should be used, the past data recorded in said memory means is used for the corona discharge start voltage,

(3) calculating the corona discharge start voltage at the transmission line by substituting weather forecast data and the transmission data in an equation, if the past data cannot be used.

20. (New) An electric power system operating method comprising:

detecting a corona discharge on a transmission line;

stopping the corona discharge in a short time by lowering a transmission voltage of a transmission line that generates the corona discharge, or stopping transmitting electric power in the transmission line;

adjusting loads of apparatuses in the electric power system; and

operating the apparatuses under an adjusted condition for supplying electric power.

21. (New) The electric power system operating method as claimed in claim 20, further comprising:

storing weather conditions in a memory means before and after occurrence of a corona discharge; and

changing the transmission voltage to a previous one, when weather conditions are assumed not to generate a corona discharge.